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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,071	06/15/2006	Takayuki Takeuchi	10873.1909USWO	9144

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EXAMINER	
BREVAL, ELMITO	
ART UNIT	PAPER NUMBER
2889	

MAIL DATE	DELIVERY MODE
09/29/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,071	TAKEUCHI ET AL.	
	Examiner	Art Unit	
	ELMITO BREVAL	2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 May 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 5-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 5-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment filed on 05/05/2010 has been entered.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/05/2010 has been entered.

Response to Arguments

Applicant's arguments are as follows:

(1), Iechi ('952) fails to teach or suggest a thin film transistor unit and a display element unit that are laminated on a substrate in the order, as required by claim 1.

(2), Morita ('686) does not teach the invention of claim 1 because Morita merely discusses that source electrode and the drain electrode being placed side by side on the surface of a substrate; and the semi-conductor membrane of Morita is not interposed between the source electrode and the drain electrode.

Examiner's responses to Applicant arguments are as follows:

(1), Iechi ('952) teaches (figs. 2 and 10; [0056]-[0061]) a display apparatus comprised of, in part, a thin film transistor unit and a display element unit are laminated on a substrate in this order, forming a transparent drain electrode (12; i.e. the pixel electrode) on the substrate side (11); forming a source electrode (15) so as to opposed

to the drain electrode in a thickness direction with an active layer (13) interposed there between. Therefore, as shown in figs. 2 and 10, Iechi does teach a thin film transistor unit and a display element unit are laminated on a substrate in the order as required by claim 1.

(2), The Examiner notes that Morita ('686) is not relied upon to teach a source electrode and a drain electrode being placed side by side on the surface of a substrate and a semiconductor membrane (i.e. the active layer) is interposed between the source electrode and the drain electrode. As shown above, Iechi ('952) discloses that limitation. Morita is relied upon to show an organic EL display device with a drain electrode that comprises a larger area than the source electrode, and Applicant is not disputing that.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iechi et al., (US. Pub: 2003/0213952) of record in view of Morita et al., (JP: 2003-084686) of record in further view of Carcia et al., (US. Pub: 2003/0164497) of record.

Regarding claim 1, Iechi ('952) teaches (in at least figs. 2 and 10) a display apparatus in which a pixel is driven by using a thin film transistor including an organic material in at least an active layer, wherein the thin film transistor unit and the display element unit are laminated on the substrate in this order ([0056]-[0061]), a transparent drain electrode (12; i.e. the pixel electrode) on a substrate side (11); a source electrode (15) is opposed to the drain electrode (12); an organic semiconductor layer (13; i.e. the active layer) interposed between the drain electrode (12) and the source electrode (15).

However, Iechi ('952) does not teach the drain/pixel electrode has an area larger than that of the source electrode so as to cover the active layer on the source electrode entirely; wherein the drain/pixel electrode being overlapped with the source electrode, and a conductive film for suppressing gas permeation of gas and moisture that is formed outside of the display element unit, wherein the source electrode has an area not less than 25% the size of the pixel electrode.

Morita ('686) in the same field of endeavor teaches (in at least fig. 1) an organic EL display device (see the title) comprised of, in part, a drain electrode (60) and a source electrode (20) wherein the drain electrode has an area greater than the source electrode area ([0016]-[0017]; [0026]). Morita discloses (in at least fig. 1) the drain electrode (60) being overlapped with the source electrode (20). Morita further discloses that the width of the drain electrode is made between 1.2 to 2.5 times the width of the

source electrode ([0016]; thus, it is considered within Morita's disclosure that the source electrode has an area not less than 25% the size of the pixel electrode) for the purpose of increasing the current flow and to improve the luminance efficiency of the device, but silent about a conductive film for suppressing gas permeation and moisture is formed outside of the display element unit.

Carcia ('497) teaches (in at least fig. 2) a flexible organic electronic device with improved resistance to oxygen and moisture degradation, wherein a conductive film (22, 62; i.e. the barrier layers; see [0044]; note: the barrier layers are made of materials such as aluminum, copper, nickel, tin, inorganic oxides, indium etc…) for suppressing gas permeation and moisture is formed outside of the display unit.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to contemplate of using the drain and source electrode structure of Morita into the device of Iechi so as to cover the active layer on the source electrode substantially entirely in order to provide good protection to the active layer and also to increase the current flow and to improve the luminance efficiency of the device, and to further modify the device of Iechi with the barrier layers (i.e. the conductive film) of Carcia for the purpose of suppressing gas permeation and moisture in the device.

Regarding claim 5, Iechi ('952) teaches (in at least fig. 2) the transparent electrode (12) covers an entire surface of the display region.

Regarding claim 6, Iechi ('952) teaches (in at least fig. 2) the substrate (11) suppresses gas permeation of oxygen and moisture.

Regarding claim 7, Iechi (‘952) teaches the substrate is selected from plastic ([0054]).

Regarding claim 8, Iechi ('952) teaches (in at least fig. 2) the display element unit is an organic electroluminescent element.

Regarding claim 9, Iechi (‘952) teaches (in at least fig. 2) the thin film transistor includes an organic semiconductor layer (13).

Regarding claim 10, Morita (‘686) teaches (in at least fig. 1) the drain/pixel electrode (60) has an area larger than that of the source electrode (20) so as to cover an entire top surface of a channel of the active layer (30). The reason for combining is the same as for claim 1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELMITO BREVAL whose telephone number is (571)270-3099. The examiner can normally be reached on M-F (8:30 AM-5:00 Pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Toan Ton can be reached on (571)-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bumsuk Won/
Primary Examiner, Art Unit 2889

September 17, 2010
/Elmito Breval/
Examiner, Art Unit 2889